

# Xilinx FPGA Program Instructions

For GRAVITY Series Cards  
Rev B



*Great River  
Technology*

6121 Indian School RD NE  
Ste 141  
Albuquerque NM 87110

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## ***'What you will need***

- JTAG cable (Xilinx, Parallel cable IV, mode DLC7 or equivalent)



- Available LPT port
- iMPACT software version 6.2i or higher. You can acquire the latest WebPACK 7.1 full version for free on Xilinx's website located here <http://www.xilinx.com/webpack/index.htm>

## ***Before you Begin***

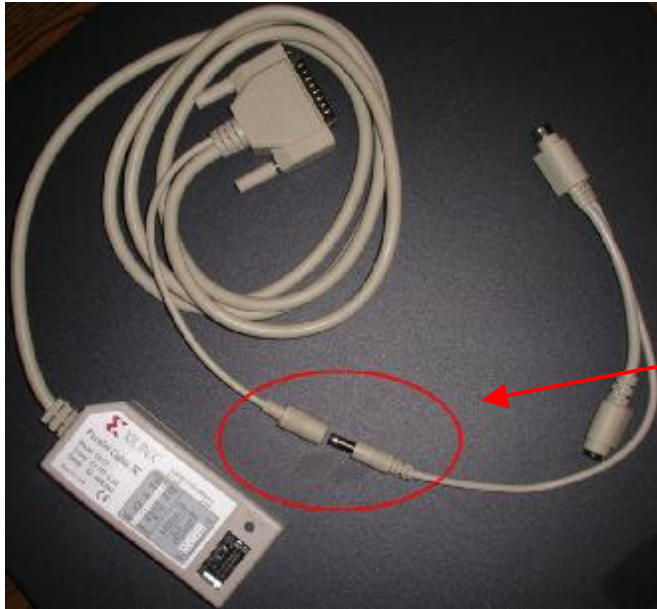
Ensure that your LPT port settings are set to ECP, SPP or Normal mode in your BIOS settings. The LPT setting cannot be set to EPP otherwise your programming will fail. Once you have verified your settings continue to the next step.

## ***Install Software***

1. Place the CD into the CDROM drive. If you do not have Autorun activated then browse to %CDROM%iMPACT\ and run WebPACK\_71\_fcfull\_i.exe.
2. Accept the terms to the Software License and click next
3. Next choose a directory to install to (i.e. C:\Xilinx ) and click Next
4. Check the Set/Update XILINX variable
5. Check the Set/Update PATH variable and click Next
6. Click Install
7. When it asks you to reboot click OK

## Attach JTAG cable

1. After completing installation connect the dual PS2 (mouse) power cable to the JTAG cable.



PS2 power connector  
to JTAG connector

2. Next plug the LPT connector and PS2 cable to the back of your computer which you installed the iMPACT software. If you have a PS2 mouse you may want to plug your mouse into the reserve PS2 port at this time as well.

*\*important\* the PS2 connector applies power to the DLC7 programming cable. If the PS2 cable is not plugged into the DLC7 programming cable iMPACT will not recognize the DLC7 programming cable.*

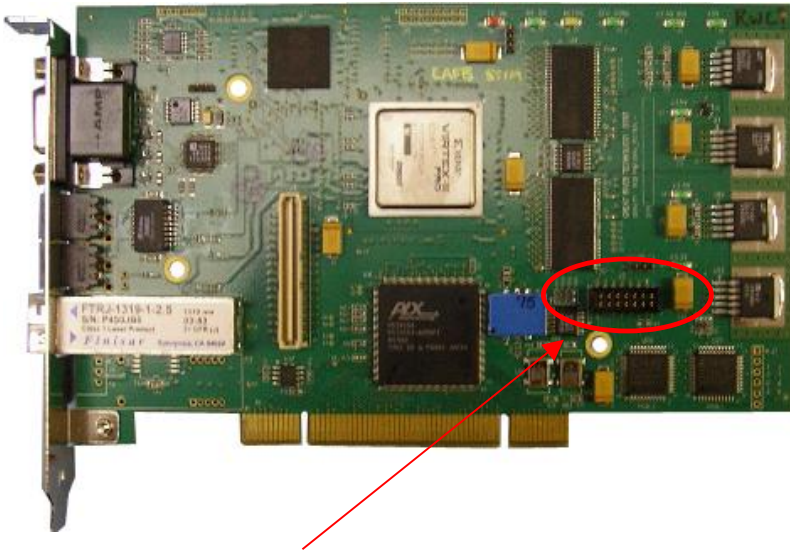


To PS2 port (mouse port).

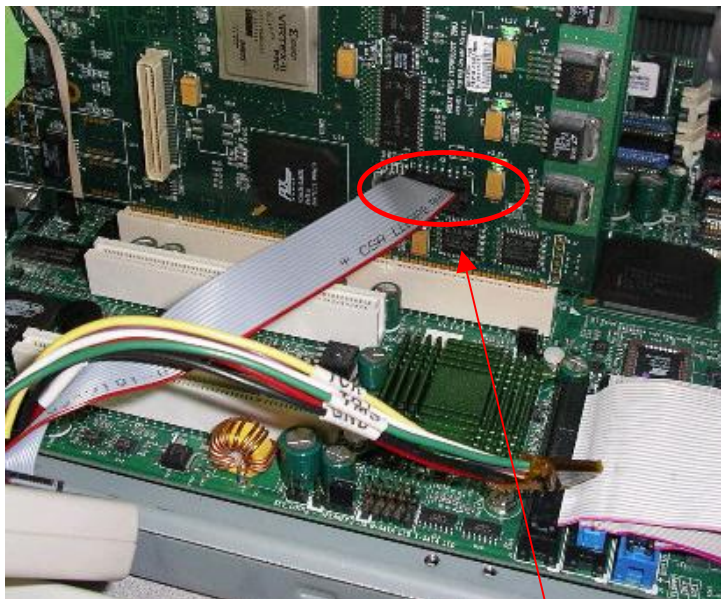
To LPT port.

To your computer mouse.

3. On the system that houses the GRAVITY unit, turn the system on and attach the JTAG cable to the FPGA Jumper ( Reference J5) on the EFC card.



*J5 programming connector*



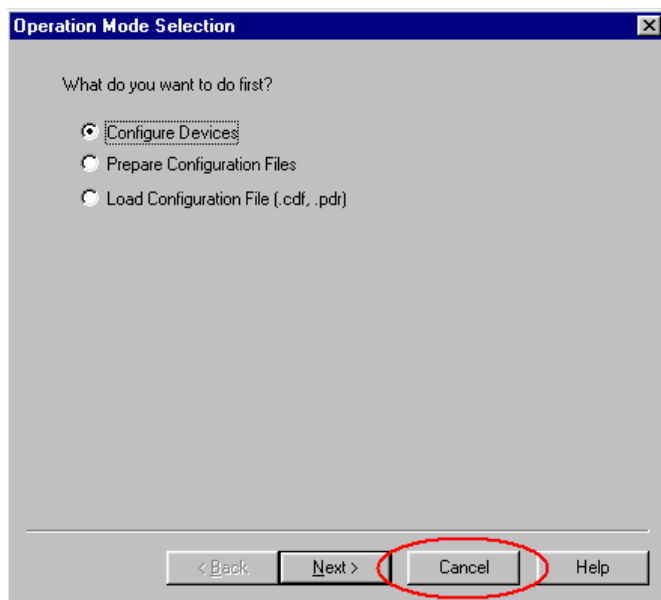
*JTAG cable attached to GRAVITY series card.*

## Load ITB and HSVN Configuration Files

1. Open up the iMPACT software tool



2. Hit Cancel when prompted at the Operation Mode Selection screen

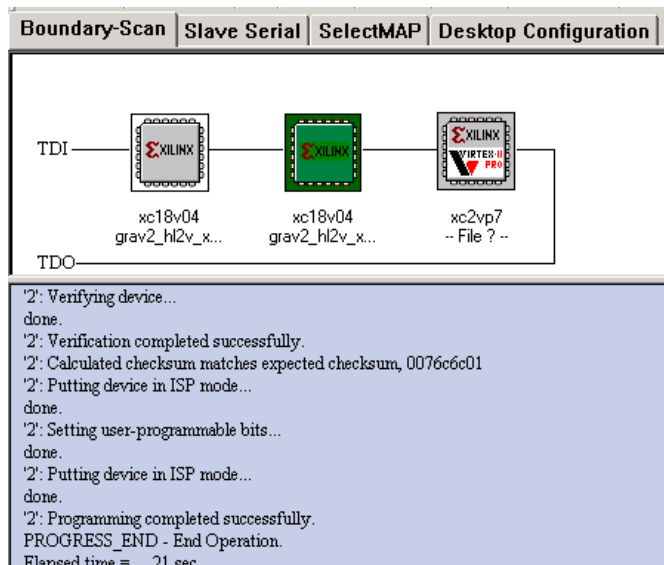


3. Right click anywhere in the white area and select initialize chain. You can also initialize the JTAG chain by selecting File/Initialize chain

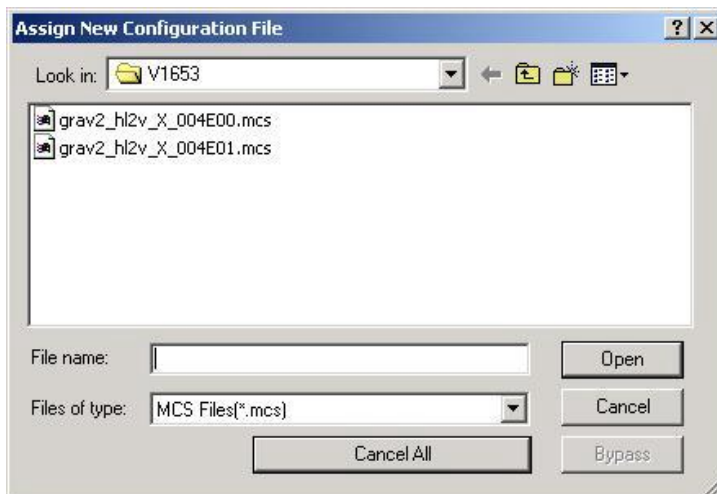
Right click to Add Device or Initialize JTAG chain



- After the JTAG chain is initialized there should be two xc18v04 Xilinx pictures and one xc2vp7 picture. If any errors generate then check and verify that your JTAG cable is connected properly to the FPGA connector (reference J5). iMPACT will automatically open up a file browser to select a configuration file to be loaded into the first 18v04.

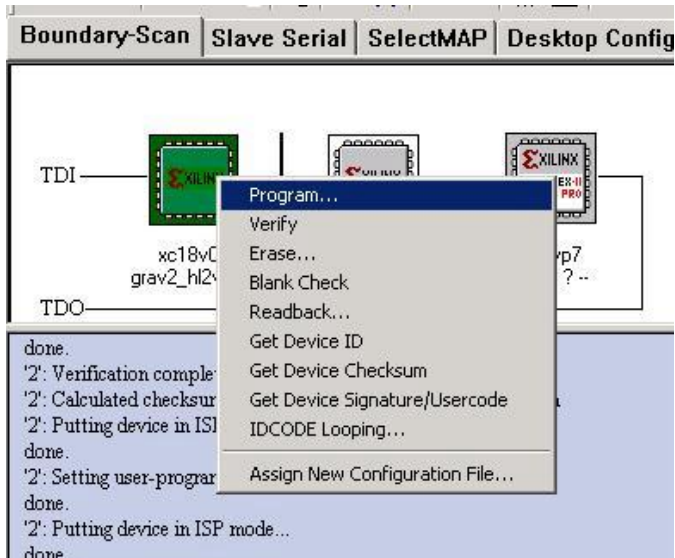


- For the first 18v04 load browse to the configuration file you wish to load (ie grav2\_hl2v\_X\_004E00.mcs) click Open.

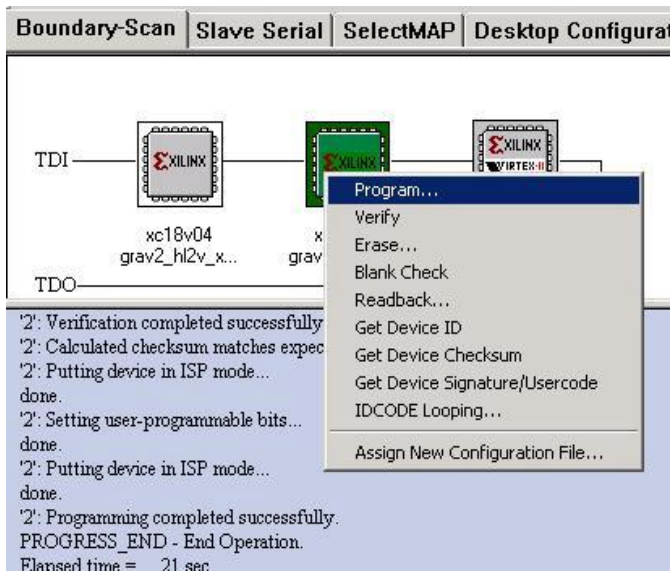


- Next, load the second configuration file for the second 18v04. Browse to the configuration file you wish to load and click Open.
- Next, Cancel the third Configuration File for the xc2vp7.
- Now, return to the first 18v04 and right click on the picture and select Program. At this point iMPACT will now load the 18v04 with the selected configuration file. Wait until

the *complete* prompt appears.



9. After the load is complete select the second 18v04 by right clicking on the picture and select Program. At this point iMPACT will now load the 18v04 with the selected configuration file. Wait until the *complete* prompt appears.



10. After both configuration files are loaded close out the iMPACT application. Shut down your computer with the GRAVITY unit and Power back on. Make sure you ***power off***. Do not restart.

## ***Power Cycle***

Once system powers up and windows loads start the EFCTEST application and verify that both configuration files were loaded correctly by reading the ver number in the upper right hand corner.

## ***Contact***

If you have any questions regarding this process please contact us.



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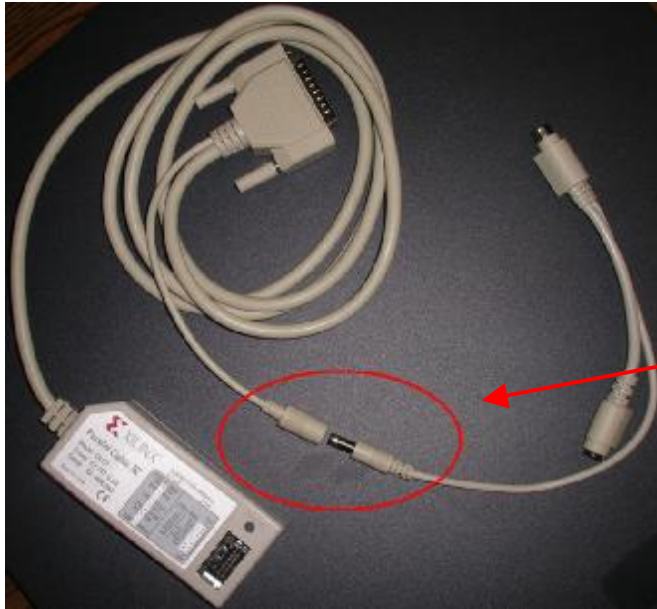
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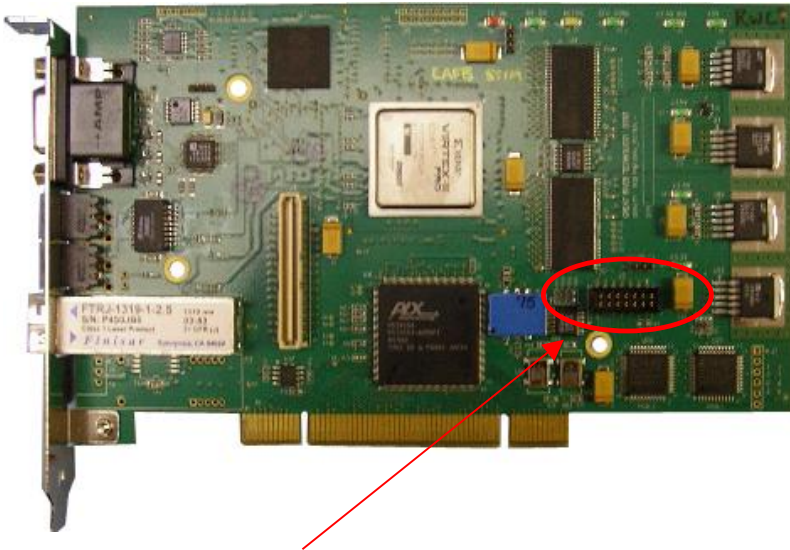


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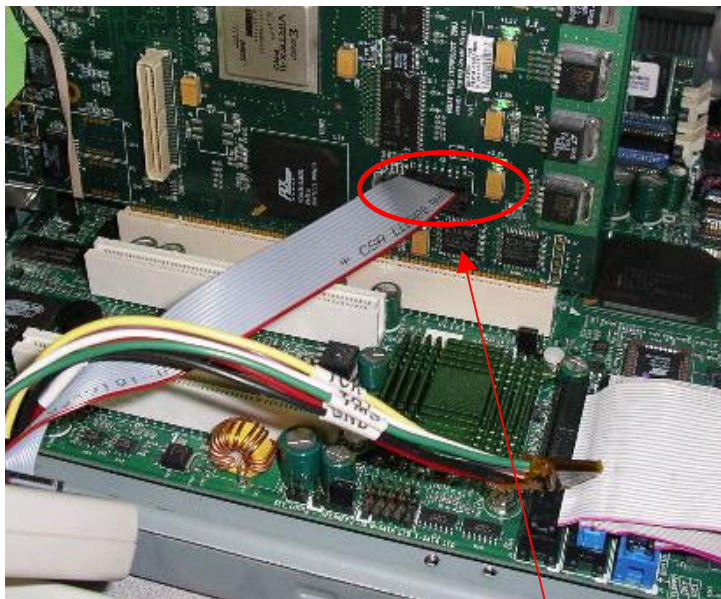
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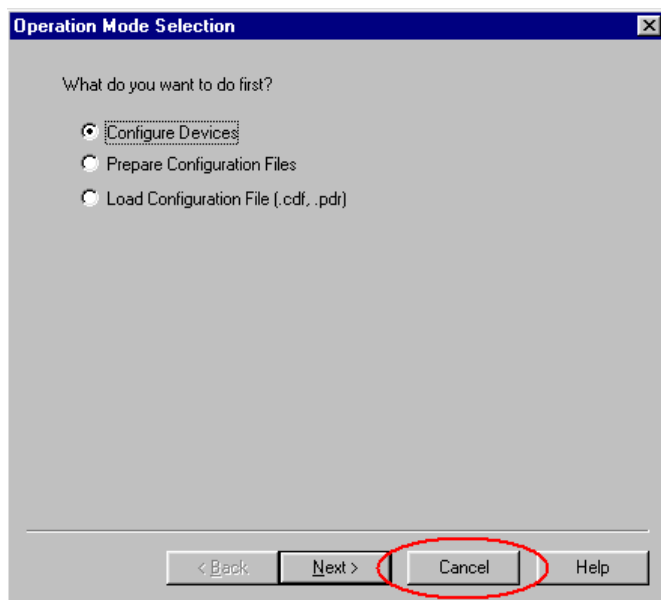
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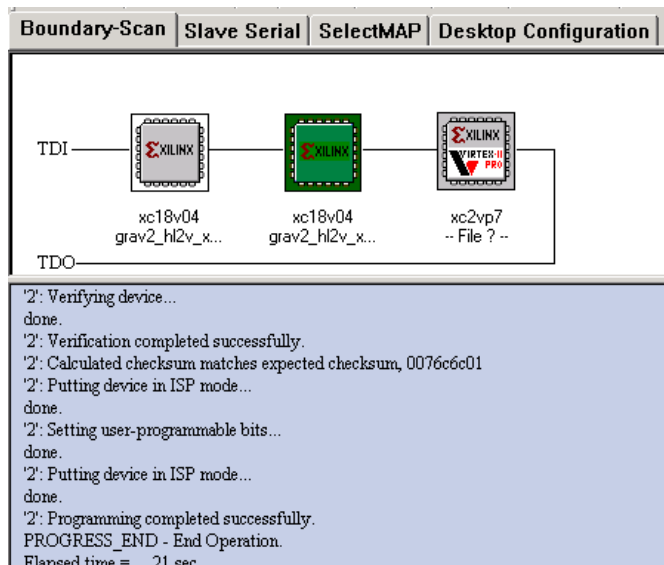


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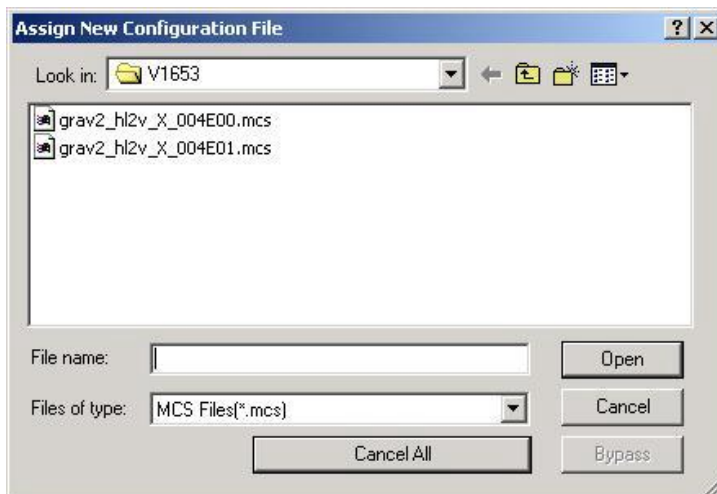
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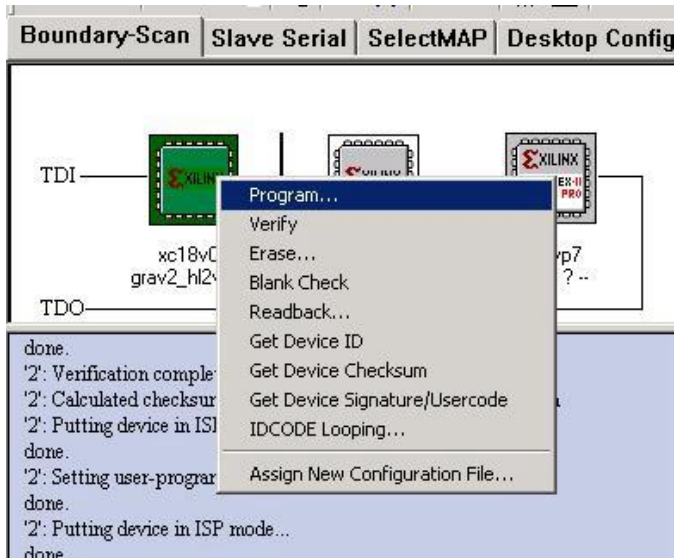


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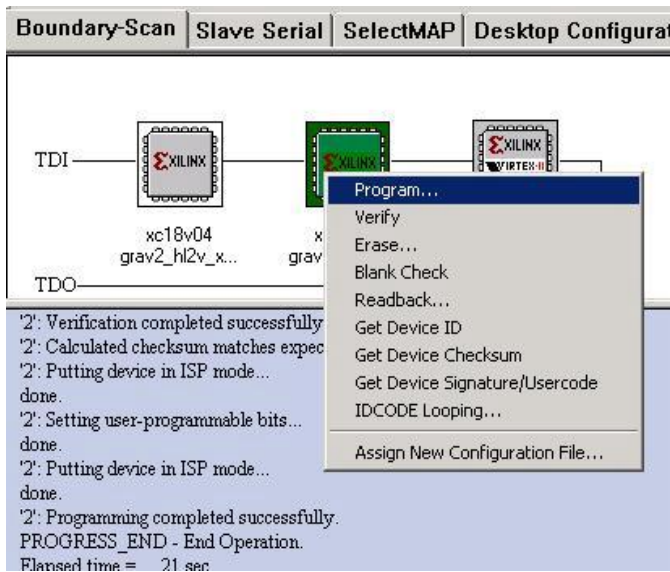


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